

REMARKS

Claims 1-22 are pending in this application. Claims 1-22 are rejected.

Claims 1, 12, 21 and 22 have been amended above. Claims 23 and 24 have previously been canceled without prejudice or disclaimer of the subject matter contained therein. Claims 2 and 13 are canceled without prejudice or disclaimer of the subject matter contained therein.

Support for the above amendments appears throughout the originally filed specification, claims, and drawings.

Applicant, by amending any claims herein, makes no admission as to the validity of any rejection made by the Examiner against any claim. Applicant reserves the right to reassert any of the claims canceled or the original claim scope of any claim amended herein, in a continuing application.

It is respectfully submitted that the above amendments to the claims introduce no new matter within the meaning of 35 U.S.C. §132. Accordingly, Applicant requests reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

- I. Claims 21 and 22 stand rejected under 35 U.S.C. §101 as set forth in paragraph 4 on page 4 of the Official Action.***

Claims 21 and 22 have been amended in response thereto.

II. Claims 1-22 stand rejected under 35 U.S.C. 112, first paragraph, as set forth in paragraph 6 on page 5 of the Official Action.

The claims have been amended in response thereto.

III. Claims 1, 3, and 5-22 stand rejected under 35 U.S.C. 102(b) as being Anticipated by Horiki (US 2002/0140667).

The Examiner assert that these claims are anticipated by Horiki. This rejection is respectfully traversed.

"Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W.L. Gore & Assocs. V. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Further, "when evaluating the scope of a claim, every limitation in the claim must be considered. U.S.P.T.O. personnel may not dissect a claimed invention into discrete elements and then evaluate the elements in isolation. Instead, the claim as a whole must be considered." *U.S.P.T.O. Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility*, page 9, October 26, 2005. As the Federal Circuit stated, "[a]nticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)).

The limitation of claim 2 has been added to claims 1 and 12. According to the Examiner in the rejection under 35 U.S.C. §103(a) on page 12 of the Official Action, "Horiki fails to explicitly teach wherein detecting a predetermined object in one or more images obtained by the camera is carried out using a segmentation algorithm."

In view of the above, it is submitted that Horiki does *not* teach each and every element of these claims are required for anticipation under 35 U.S.C. §102. Thus, the Examiner is respectfully requested to withdraw this rejection.

IV. Claim 2 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Horiki (US 2002/0140667) in view of AAPA (specification, page 2, line 22 to page 3, line 2) as set forth in paragraph 11 on page 12 of the Official Action.

The Examiner asserts that "it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use a segmentation algorithm as taught by AAPA in the system taught by Horiki in order to achieve the predictable result of providing an algorithm that would detect the finer." This rejection is respectfully traversed.

To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. *Graham v. John Deere*, 383 U.S. 1, 17-18 (1966). In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a)

should be made explicit, and should "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007). Furthermore, even if the prior art may be combined, there must be a reasonable expectation of success, and the reference or references, when combined, must disclose or suggest all of the claim limitations. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Horiki discloses a portable communication terminal 600, including a CCD camera 611 and a liquid crystal display 621, as shown in Fig. 6(a). The CCD camera 611 is a means of capturing movement of an operator's finger. See paragraph [0123]. The terminal 600 further includes image processor means 701, a position detecting means 702, and a control means 703, as shown in Fig. 7. See paragraph [0124].

Horiki discloses that "when an image of the forefinger 901 is captured by the CCD camera 611, the captured image is processed by the image processing means 701, and the contour of the forefinger 901 is extracted." See paragraph [0131].

Horiki further discloses that "by setting the focal length of the CCD camera 611, for example, to about 30 cm, the influence of the background on which the object is being shot can be reduced." See paragraph [0132].

AAPA (specification, page 2, line 22 to page 3, line 2) only discloses the existence of methods for segmentation; however, does **not** disclose such use according to the claimed subject matter.

Horiki discloses reducing the influence of the background on which the object is being shot by manually adjusting the focal length, and by no other method. Horiki does not disclose dealing with the background using other methods such as those according to the claimed subject matter.

It is pointed out that there exists two major difficulties that arise when attempting to perform object recognition in a mobile device. One difficulty is that the background can be constantly changing and is unpredictable. Therefore, any object detection method used on a portable device cannot rely on information contained in the background. There is another problem that arises with image detection by a portable device, and that has to do with the fact that the illumination of the entire scene captured in an image changes constantly and is unpredictable. In particular, the illumination of the object being detected also changes constantly and is unpredictable. Furthermore, the illumination of the object being detected may not be uniform.

The inventor has tried several tracking methods to track an object by a portable device and found that the segmentation method is the most robust under conditions of variable illumination. In particular, contour extraction methods that attempt to detect the contour of an object in a single step (like Horiki) were found to be highly unreliable because of variable and unpredictable contrast between the object and the background due to the variable, unpredictable, and non-uniform illumination on the object.

Horiki does **not** teach or suggest detecting a predetermined object in one or more images obtained by the camera using a segmentation algorithm according to the claimed subject matter.

Thus, nothing in Horiki and AAPA, taken alone or in combination, render the subject matter of these claims obvious within the meaning of 35 U.S.C. §103. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

V. Claim 4 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Horiki (US 2002/0140667).

The Examiner asserts that "it would have been obvious design choice to "one of ordinary skill" in the art at the time the invention was made to make the image analysis either history dependent or independent depending upon the design characteristic of the device." This rejection is respectfully traversed.

To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. *Graham v. John Deere*, 383 U.S. 1, 17-18 (1966). In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and should "identify a reason that would have prompted a person

of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007). Furthermore, even if the prior art may be combined, there must be a reasonable expectation of success, and the reference or references, when combined, must disclose or suggest all of the claim limitations. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Again, the limitation of claim 2 has been added to independent claim 1 on which claim 4 is dependent. According to the Examiner in the rejection under 35 U.S.C. §103(a) on page 12 of the Official Action, "Horiki fails to explicitly teach wherein detecting a predetermined object in one or more images obtained by the camera is carried out using a segmentation algorithm."

Thus, nothing in Horiki renders the subject matter of these claims obvious within the meaning of 35 U.S.C. §103. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

CONCLUSION

Applicant believes that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated grounds for rejection have been overcome or rendered moot. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant's undersigned representative at the number below to expedite prosecution.

If an extension of time is necessary to prevent abandonment of this application and is not filed herewith, then such extension of time is hereby petitioned for under 37 C.F.R. §1.136(a). Any fees required for further extensions of time and any fees for the net addition of claims are hereby authorized to be charged to our Deposit Account No. 14-0112. Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,
THE NATH LAW GROUP

/William L. Klima/
Susanne M. Hopkins
Registration No. 33,247
William L. Klima
Registration No. 32,422
Customer No. 20529

June 13, 2011
THE NATH LAW GROUP
112 South West Street
Alexandria, VA 22314
(703)548-6284